

easily position the handle at a comfortable position in both a forward and rearward direction and side-to-side direction relative to the base. This adjustability is accomplished by the sliding member being slidably secured to the base and the handle being slidably secured to the sliding member.

In contrast, Hansen et al. neither teaches nor suggests such structures. While the handle in Hansen et al. may be slidably received in the base, such connection does not appear to be positionable in different forward and rearward positions relative to the base. Rather and as best shown in FIG. 12 of Hansen et al. (below), the disclosed structures are aimed at pivoting the handle forward and rearward relative to the base.

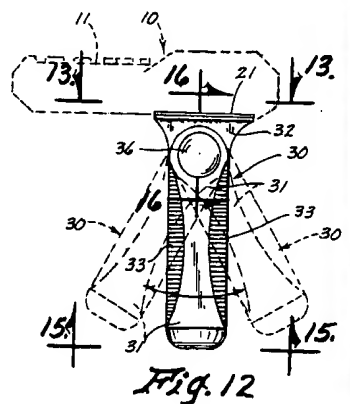


FIG. 12 of Hansen et al. (U.S. Pat. No. 5,349,497). While these structures allow some degree of adjustability of the handle relative to the base, they do not provide the movement and related range of adjustability of the present invention.

The claims of the present application, as amended herein, further clarify this distinction between Hansen et al. and the present invention.

Claims 1:

Turning to the claims of the present application, claim 1 (as amended) now specifically requires "a sliding member slidably secured to said computer-mounting portion such that said sliding member moves relative to said computer-mounting portion along a defined first direction," and "an elongate handle slidably secured to said sliding member such that said elongate handle moves relative to said sliding member along a defined second direction" (emphasis added),

Claim 11:

Similarly, claim 21 (as amended) now specifically requires "a sliding member slidably secured to said base such that said sliding member moves relative to said

base along a defined first direction" and, "an elongate handle having a base mounting portion and a handle grip portion, said base mounting portion slidably secured to said sliding member such that said elongate handle moves relative to said sliding member along a defined second direction . . ." (emphasis added)

As previously noted, Hanson et al. discloses no such structures. Since Hansen et al. neither teaches nor suggests these essential elements of independent claims 1 and 21, they cannot be rendered obvious or anticipated by this reference or any other references of record, and they should be allowed. Moreover, since dependent claims 2-5, 7-20, and 22-30 depend on these now allowable claims, they too should be in condition for allowance.

Claim Rejections of Claims 6, 9, and 24 under 35 USC § 103

Applicants respectfully traverse the examiner's rejection of claims 6, 9, and 24 as being obvious by Hanson et al. (U.S. Pat. No. 5,349,497) in view of Koenck et al. (U.S. Pat. No. 5,410,141). There is no teaching or suggestion to combine these references as currently claimed. None of these references teach or suggest using RF-ID readers with a scanning device having a detachably secured handle assembly as claimed.

Moreover, claims 9 and 24 now include the limitations of their amended base claims. Accordingly, these claims should now also be patentably distinguishable from these references for the reasons set forth in the previous section.

Claim Rejections of claims 7 and 8 under 35 USC § 103

Applicants respectfully traverse the examiner's rejection of claims 7 and 8 as being obvious by Hanson et al. (U.S. Pat. No. 5,349,497) in view of Postman et al. (U.S. Pat. No. 5,664,231). There is no teaching or suggestion to detachably secure a commercial, off-the-shelf, hand-held computer to a triggered handle assembly as currently claimed.

As explained more fully in the background section of this application, commercial hand-held scanning devices, which are commonly known in the industry as "bricks on a stick," are expensive and bulky items. A significant reason for these items being so expensive and bulky is the fact that hand-held scanner manufacturers sell BOTH the scanning device and its handle.

The biggest expense to consumers with purchasing such a scanning system is associated with purchasing the scanning manufacturer's scanning device. These scanning devices are single function devices that have been specifically designed and shaped such that should they ever break, the consumer must purchase a replacement scanning device only from the original manufacturer.

Despite these manufacturers attempting to improve the users' ability to use these devices, such as by adding handles with limited adjustability and the like, they do not teach or suggest using a common, off-the-shelf, multi-function hand-held computer with these improvements. Such a teaching or suggestion from them would allow consumers to avoid buying the over-priced, clunky, single function scanners made and sold by these manufacturers.

As also explained more fully in the background section of this application, portable computers are evolving into hand-held electronic devices that perform a wide variety of applications such as computing, database management and storage, communication, and the like. Contrary to the traditional hand-held commercial scanner manufacturers' business model, the primary business model associated with manufacturers of multi-application hand-held computers is to make them cheaper, lighter and smaller, and with more computing power. Accordingly, a multi-function hand-held computer with a scanning feature can now be purchased off-the-shelf for much less than a scanner from a traditional commercial single-purpose scanner manufacturer.

Despite the benefits of commercial, multi-purpose, hand-held computers, their input devices and general use and operation have remained substantially along a plane defined by the device itself. For example, to activate the majority of functions on the hand-held computer, the user usually depresses either keys or a touch screen positioned along an upper plane of the hand-held computer. This process is cumbersome, especially during repetitive scanning tasks. Accordingly, the scanning feature of off-the-shelf, multi-purpose, hand-held computers has not gained wide acceptance for commercial use.

The present invention permits a commercially available, multi-purpose, hand-held computer to operate easily as a trigger-actuated traditional scanner. However, the user is not required to purchase a scanner manufacturer's traditional, bulky and single use scanner. Accordingly, the hand-held computer can be used for other applications,

and the consumer saves money by buying inexpensive, general purpose, hand-held computers, rather than by being forced to purchase overpriced, single use, scanners.

Turning to the claims, claims 7 and 8 call for a "personal digital assistant," a commercially available, off-the-shelf, multi-purpose hand-held computer that is commonly known among consumer, and readily distinguishable from the clunky, single purpose scanning devices shown in the referenced prior art and made and sold by traditional scanner manufacturers. Accordingly, applicants maintain that these claims are patentably distinguishable over the references of record on the above-noted grounds.

Moreover, to further clarify this distinction, applicants have submitted new claims 31-39 herein. New independent claim 31 specifically requires as follows:

"a commercially available, general purpose, portable hand-held computer operably secured to the scanning element and defining a general plane, said portable hand-held computer having a plurality of off-the-shelf applications therein, one application of said plurality of applications therein including operating the scanning element in response to an input device operably connected to the hand-held computer; and, an elongate handle detachably secured to the portable hand-held computer and extending substantially orthogonally from said plane, said elongate handle having a trigger operably secured thereto, said trigger in communication with the input device such that actuating the trigger commands the input device to operate the scanning element." (emphasis added.)


As previously noted, none of the references of record, either alone or in combination, teach or suggest such a structure. Accordingly, new claim 31 should be in condition for allowance. In addition, since new independent claims 32-39 depend on allowable claim 31 they too should be in condition for allowance.

In view of the foregoing, applicants submit that all of the currently pending claims are in condition for allowance, and respectfully request that the case be passed to issuance. If the Examiner has any questions, he is invited to contact applicants' attorney at the below-listed telephone number.

Respectfully submitted,

January 13, 2003

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Attachment A to Amendment
(Redlined amendments to claims)

1. (Amended) A portable computer handle for detachably receiving a hand-held computer, the computer capable of performing at least one function, said portable computer handle comprising:

a [substantially planar]computer-mounting portion for detachably receiving the hand-held computer;

a sliding member slidably secured to said [substantially planar] computer-mounting portion such that said sliding member moves relative to said computer-mounting portion along a defined first direction;

an elongate handle [operably secured to said computer-mounting portion]slidably secured to said sliding member such that said elongate handle moves relative to said sliding member along a defined second direction, said elongate handle extending substantially orthogonally from said [substantially planar]computer-mounting portion; and,

a trigger operably secured to said elongate handle in electrical communication with the portable computer such that depressing the trigger actuates the at least one function on the hand-held computer.

6. (Amended) A portable computer handle for detachably receiving a hand-held computer, the computer having a data reader operably secured thereto, said portable computer handle comprising:

_____ a computer-mounting portion for detachably receiving the hand-held computer;

an elongate handle operably secured to said computer-mounting portion said elongate handle extending substantially orthogonally from said computer-mounting portion; and,

a trigger operably secured to said elongate handle in electrical communication with the portable computer such that depressing the trigger actuates the data reader;

[The portable computer handle for detachably receiving a hand-held computer of claim 4,]wherein the data reader is a radio frequency identification tag reader.

10. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 1, wherein [the position of said elongate handle with respect to said substantially planar mounting portion is adjustable in at least one direction]said first and second directions are perpendicular to each other and aligned substantially in a plane.

11. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 10, where said [at least one]first direction is toward and away from a front side of said substantially planar mounting portion.

12. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 1, wherein the position of said elongate handle with respect to said substantially planar mounting portion is adjustable in [at least two different]both said first direction and said second direction[s].

13. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 12, wherein said [at least two different directions include]first direction is toward and way from a front side of said [substantially planar]mounting portion, and said second direction is toward and away from a right side of said [substantially planar]mounting portion.

14. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 1, wherein said elongate handle is rotatably secured to said substantially planar [portion]member.

15. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 1, wherein said elongate handle is operably secured to said substantially planar [portion]member such that the angle of said elongate handle with respect to said substantially planar [portion]member is adjustable.

16. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 15, wherein a ball and socket joint operably secures said elongate handle to said substantially planar [portion]member.

21. (Amended) A portable computer handle for detachably receiving a hand-held computer, the computer capable of performing at least one function, said portable computer handle comprising:

a base for detachably receiving the hand-held computer;

a sliding member slidably secured to said base such that said sliding member moves relative to said base along a defined first direction;

an elongate handle having a base mounting portion and a handle grip portion, said base mounting portion [operably]slidably secured to said [base]sliding member such that said elongate handle moves relative to said sliding member along a defined second direction, wherein [and]said handle grip portion infinitely adjustable in at least [one]two directions with respect to said base; and,

a trigger operably secured to said handle grip portion and in electrical communication with the hand-held computer such that depressing the trigger actuates the at least one function on the hand-held computer.

25. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 21, where said [at least one]first direction is toward and away from a front side of said base.

26. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 21, further including detachable fasteners for operably holding said sliding member and said elongate handle in place [wherein the position of said handle grip portion with respect to said base is adjustable in at least two different directions.]

27. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 26, wherein said [at least two different directions include] first direction is toward and way from a front side of said base, and said second direction is toward and away from a right side of said base.

28. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 21, wherein said handle grip is rotatably secured to said base[mounting portion].

29. (Amended) The portable computer handle for detachably receiving a hand-held computer of claim 21, wherein said handle grip portion is operably secured to said base mounting portion such that the angle of said elongate handle grip portion with respect to said base mounting portion is adjustable.

--31. (Newly Added) A portable scanning device comprising:

a scanning element;

a commercially available, general purpose, portable hand-held computer operably secured to the scanning element and defining a general plane, said portable hand-held computer having a plurality of off-the-shelf applications therein, one application of said plurality of applications therein including operating the scanning element in response to an input device operably connected to the hand-held computer; and,

an elongate handle detachably secured to the portable hand-held computer and extending substantially orthogonally from said plane, said elongate handle having a trigger operably secured thereto, said trigger in communication with the input device such that actuating the trigger commands the input device to operate the scanning element.

32. (Newly Added) The portable scanning device of claim 31, further including a base for detachably securing the portable hand-held computer to said handle, and said handle is slidably secured to said base.

33. (Newly Added) The portable scanning device of claim 32, wherein said elongate handle is a joystick-type handle.

34. (Newly Added) The portable scanning device of claim 33, wherein said joystick-type handle includes a handle grip portion.

35. (Newly Added) The portable scanning device of claim 31, wherein said scanning element is a bar code scanner.

36. (Newly Added) The portable scanning device of claim 31, wherein said scanning element is a radio-frequency identification tag reader.

37. (Newly Added) The portable scanning device of claim 31, wherein said handle is positioned below said hand-held computer and aligned substantially with the center of gravity of the combined handle and hand-held computer.

38. (Newly Added) The portable scanning device of claim 31, further including a base for detachably securing the portable hand-held computer to said handle, and said handle is slidably secured to said base such that said handle moves in a first and second direction relative to said base, said first and second directions being substantially perpendicular to each other.

39. (Newly added) The portable scanning device of claim 38, wherein said elongate handle is rotatably secured to said base.--